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The object of regulation: tending the tensions of food safety

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The object of regulation: tending the tensions of food safety

Abstract. “I’m struggling to see what it actually is,” says Alison, peering into a colander of defrosting meat. What “it” is, we propose in this paper, is helpfully thought of as “the object of regulation” in at least three senses, which together signal both our inheritance of a Foucauldian problematic and our departure from it. Our suggestion is that much of even the best work on biopolitics, biopower, and biosecurity that has been inspired and informed by these writings has replicated Foucault’s own struggle to get to grips with the complexity of matters that he variously refers to “natural” or “artificial” “givens”. By following science and technology studies (STS) scholars in using broadly ethnographic techniques to explore objects as and at the intersection of practices, we redress this balance somewhat by thinking through an empirical study of the securing of food safety, specifically Alison’s inspection of a restaurant kitchen. What we find is that the securing of meat as a material object of regulation is primarily done by in-volving multiple versions of the future, something which requires a great deal of usually under-recognised, under-valued, and under-theorised articulation work. With risk based regulation, cost sharing, and public sector cuts in the UK set to redefine the ways in which Alison and her colleagues engage with food business operators, we conclude by arguing for a greater appreciation of the skilful work of tending the tensions of food safety, as well as recognition of its limitations.

Keywords: food safety, securing, biopolitics, biosecurity, future

1. Introduction

“I’m struggling to see what it actually is,” says Alison, crouching on the floor, shining her torch under a shelf onto a colander of defrosting meat, which is dripping blood into a metal tray below.

This moment of attentiveness and uncertainty occurred in the walk-in fridge of a Malaysian restaurant in a large, multicultural British city. We were in this kitchen shadowing Alison, a specialist food safety officer working for the local authority, with her as part of our research into how meat is currently made safe in the UK. Alison was in this kitchen to conduct a routine inspection, the outcome of which would be a food hygiene score for the business, which the local authority uses in calculating future threats to food safety within their jurisdiction, and which consumers may also use to guide their dining choices. There was nothing particularly special about this visit to this restaurant. It was simply another one ticked off Alison's long list of the food business operators that she had the job of touching one way or another that month, whether by letter, by dropping in, or by full inspection. Nor was there anything unusual (according to her assessment) about what we encountered there. At the risk of ruining any suspense, there were no outbreaks to report, no unexpected viral or bacterial presences detected, no samples taken, no alerts raised. Hardly the cutting edge of biosecurity, one might say.

So why are we starting here, in a restaurant ostensibly no different from many others on Alison's long list, with nothing unusual to report? Why do we spotlight this particular moment, as Alison kneels awkwardly on the floor, spotlighting with her torch an uncovered colander of meat defrosting, and admitting to us, "I'm struggling to see what it actually is"? We start here because we came to realise that this visit, this moment, this matter just out of reach and difficult to grasp, had a great deal to teach us about making matters safe, about biosecurity defined not simply by outbreaks or viruses as such, but rather as a way of managing life. Rather than comparing approaches to food safety regulation in different nations (Jasanoff, 2007; Morgan et al., 2006) or considering historical changes to the style of food safety regulation in the UK (Flynn and Marsden, 1992; Harrison et al., 1997; Otter, 2006), we very deliberately constrain our attention to this inspection and the contemporary

UK and European food policy to which it is bound. Inspired by Annemarie Mol's (2008) unpacking of the pricking of one's finger to draw blood as a careful(l) moment of living with diabetes in the present and the future, we paid attention to Alison's paying attention, to this visit, this moment and this matter, learning to think it through and think through it. We came to realise that, contrary to appearances perhaps, there was a lot involved in this encounter with meat in a fridge, and it is precisely this 'a lot', this abundance, from which we have much to learn: about how biosecurity is actually done in practice (specifically the ways in which food safety practices in-volve different versions of the future); about how both theory and policy struggle to deal with this abundance in practice; about how the struggle to deal with that abundance loops back to shape the practices of Alison and her colleagues.

This last point is best elaborated by Alison herself in her references to being 'stretched': stretched for time (she has a lot of visits to complete this month); stretched spatially (these visits were distributed across a wide area and required a great deal of coordination); stretched for resources (the local authority's food safety team was in the process of being downsized); and stretched between priorities (having to manage in her work the competing 'goods' of the Pennington Report (2009), which advocates more on the ground food safety officers making more effective interventions with food business operators, and the Hampton Review (2005), which argues for reducing the burden of regulation on small to medium sized businesses). In what follows we take seriously this language of stretching and how it figures a moment of great change in the regulation of food safety in the UK, with risk based regulation, cost sharing, and public sector cuts looking to redefine the ways in which Alison and her colleagues engage with food business operators. In doing so, we offer some insights into what we call 'the object of regulation', and how it is shaped, shaped both in the sense of *what* it is composed of, and *how* it is composed.

These moves involve us in two ongoing academic conversations. First, that between biopolitical work broadly defined (Aradau and Blanke, 2010; Foucault, 2007; Lakoff and Collier, 2008; Nally, 2010) and more obviously object-oriented work in science and technology studies (Lavau, 2011, in prep.; Law, 2004; Mol, 2002), geography (Barker, 2010; Bingham et al., 2008; Braun, 2007; Enticott, 2008; Kinsley, 2010; Roe, 2006; Whatmore, 2002) and further afield (Bennett, 2010; Malabou, 2004; Nancy, 2008; Stengers, 2010), a conversation that has been generating new insights into the relations between bios and the bio. Then second, the conversation that this special issue seeks both to review and extend, between geographers (Adey, 2009; Anderson, 2010a, b; Crang, 2011) and others (Dillon and Lobo-Guerrero, 2008; Massumi, 2009) regarding what seriously thinking through the future can tell us about our contemporary condition, and particularly how that condition is secured. Geographers of food, for example, have broached this issue through their attention to contemporary concerns with food security and food anxieties (Donaldson, 2008; Donaldson et al., 2002; Harrison et al., 1997; Jackson, 2010; Morgan et al., 2006; Nally, 2010; Stassart and Whatmore, 2003). As will become clear, there is good reason to follow the object and the action around the object when one is interested in both matters of (bio)security and the future in the present. Both conversations draw attention to what we call the *material object* of regulation, but both struggle to get to grips with its complexity, and it is this that we hope to begin to remedy in what follows.

2. The object(s) of regulation

Through the notion of the object of regulation, we draw attention to three related ways in which regulation has an object, and thus the sensibilities through which in this paper we will subsequently re-visit Alison's inspection of the Malaysian restaurant. The first way that regulation has an object is in terms of its aim, or what one might call its *purposive* object,

both in the kitchen and in other sites where food safety policy is monitored and enforced. The Food Standards Agency (FSA, 2011b, p. 20), responsible for regulating food safety in the UK, identifies its strategic objective as “safer food for the nation”, which is shorthand for the following claim: “Food safety is our concern from the time ingredients come into the country, or leave the farm, right through to when food is sold to you in shops or served to you if you are eating out.” Through the work of people such as Alison, the FSA’s Safer Food, Better Business initiative “ensures that good food hygiene is central to how food businesses operate” (2011b, p.2). So, in their terms, the purposive object of the FSA’s food safety regulation is to prevent diseased food arriving on the plate of UK citizens, whilst allowing for the commercial movements of food into the country, and from farms to factories, and into shops, restaurants and homes.

In our terms, the purposive object of food safety regulation is security, security in the specific sense outlined by Michel Foucault (2007) in *Security, Territory, Population*. Foucault proposes the apparatus (or dispositif) of security as a mechanism of power with a purchase similar to those of sovereignty and discipline. Security centres on the regulation of what circulates and how: qualifying good and bad circulations; maximising the good, minimising the bad. For example, good circulations ensure that food can travel in a ‘common’ market, and from farm to fork, thus arriving on the table in the restaurant that we are visiting. Bad circulations enable the movement of food-borne disease (such as E.coli, Campylobacter, or BSE infection) which threaten the ‘common’ body politic, including the customers of this restaurant. As a net importer of food, the aspiration for food security pushes the UK towards being open to more numerous, diverse and distant suppliers of food (Defra, 2008, 2010). Meanwhile, the concurrent aspiration for biosecurity to protect public health pushes for constricting potential pathways for spreading food-borne disease (Defra, 2009; FSA and Defra, 2010). Our point here, and to be developed further through this paper, is that security

as a mode of managing flows involves the recognition that it is neither necessarily possible nor necessarily desirable to *exclude* certain things (as in sovereignty), or to *control* and *contain* certain things (as in discipline). Instead — and current food safety policies are an excellent example of this approach — one seeks to *modulate* pre-existing aspects of a given “milieu” in search of the best possible outcome (Foucault, 2007). This, then, is the first sense in which regulation has an object: maximising the trade and commercial movements of food, while minimising the spread of food-borne disease through techniques of modulation.

The second sense in which regulation has an object is in terms of the “*referent object*” (Dillon and Lobo-Guerrero, 2008), being that which the technology of security is meant to take up and work over. If sovereignty can be said to operate on a territory, and discipline on individuals, security can, according to Foucault (2007), be said to work on a population. Here population, as distinct from a people or a public for instance, is a species-specific cohort of biological individuals and its behavioural and physiological characteristics and correlations. Security operates via methods of observation, calculation, regulation, and modulation on and through the population as a quasi-natural pool of risk through which more or less probable events are distributed. For example, the FSA’s (2011a) Foodborne Disease Strategy is driven by the claim that food-borne disease is a major cause of illness in the UK population, this population being describable in terms of its food preferences, health, hygiene habits, consumer behaviours, and so forth. Events of food-borne disease, whether individual cases or outbreaks that affect more than one person, are distributed unevenly through this cohort of more or less at risk individuals doing more or less risky things. Getting food poisoning from eating out is one such event. The regularity with which and the manner in which this Malaysian restaurant will be visited by the local authority in the future will depend on how its risk rating from Alison’s inspection compares to those of all the other registered food businesses within the council’s jurisdiction. These risk ratings are used to determine the

most likely future threats to food safety (i.e. customers of *this* food business will be at greater risk than those of *that* food business), and thus to set the priorities for inspection during the year. Food safety regulation is thus about identifying threats, calculating their relative probabilities, and taking action that is “risk-based and proportionate” (FSA, 2011a, p.8), to reduce the severity and incidence of cases of food-borne disease within the UK population. This population of UK consumers, then, is an example of the second sense in which regulation has a (referent) object.

Finally, the third sense in which regulation has an object is in terms of the *material* object, that which the technology of security handles, works on, deals in. Foucault (2007) describes security as a mode of attention that focuses on the specificity and qualities of what he variously refers to as natural or artificial “givens”, “elements”, or “variables” that help constitute the milieu on and in which it operates. It does this with a view to modulating them to generate the best possible outcome, rather than imagining that they can be completely reformulated or controlled (as in a disciplinary dispositif). It is such attempts at modulation and the practices through which they are made that are the focus of our attention in the inspection of this restaurant, as well as our ethnographic visits to a number of other sites in the food chain, including abattoirs, meat processing plants, cold stores, laboratories, department stores, airports, and butchers. Meat, barcodes, documents, stainless steel appliances, agar plates, fridges: these are just some of the many inhabitants of that third sense in which regulation has an object, and it is to these materialities and *foodstuffs* (Roe, 2006; Stassart and Whatmore, 2003) to which we turn our attention.

What have we learned so far from these visits about meat as a target of food safety practices? First, one reason that the regulation of food is so challenging is that the network by which meat the foodstuff (coded good) and meat the carrier of disease (coded bad) circulate are of

course the same network. Developments in the industrial production, transport and liberal trade of food in Britain since the 19th century have meant not only that the circulation of meat products is ever more rapid and extensive, but also that “[a]ny pathogens entering or flourishing in the system might thus be efficiently distributed” (Otter, 2006, p. 532). The spread of meat-borne disease is not the sign of a failure of flow, but rather the sign of its success. This makes knowing how, where, and when to intervene in the circulation of meat a tricky question. This “poly-functionality” (Foucault, 2007, p. 19) of the network — one function deliberate and desirable, the other accidental and undesirable — must be carefully negotiated. Second, and another reason why the regulation of food is so challenging, is that meat has always been a matter of “compromise” as the French historian Madeleine Ferrières (2006, p. 328) has stated: “Compromise between the principle of reality and the ideal of security. Compromise between the actors, the government, the public, and, later, the press. Compromise among different food values.” We expect a lot of food, of meat, not only that it is safe but that it is all sorts of other things too, including tasty, good value, healthy, culturally appropriate, and ethical. Often we expect all of these at once. Safety, then, is stretched from the start.

Finally what we have learned is that meat as a (material) object of regulation is very much done through modalities of “work[ing] on the future”, which Foucault (2007, p. 20) argues is characteristic of the logic of security: “[Techniques of security] open onto a future that is not exactly controllable, not precisely measured or measurable.” We find that the “milieu” of circulation (in our case, the kitchen) is modulated through a series of techniques (prevention, precaution, preparedness) which in-volve the future in the present. In other words, versions of the future shape the spaces of food systems in very material senses. What this means in practice is what we will now explore.

3. Prevention: ensuring food futures

Lunch-time is approaching, but when we enter the restaurant it's still empty. Alison eventually convinces the young waiter acting as front of house that she has powers of entry and does not need the permission of the absent manager to visit the kitchen. We are led down a ramp into a cavernous underground kitchen. Stainless steel dominates, as we have already learned to expect. There are several chefs present at the far end of the room. None speak English, the waiter informs us.

Starting her inspection, Alison pulls out a yellow folder of paperwork. Although this restaurant is newly registered as a food business and this is its first inspection, she already has a sheaf of paperwork related to it. It is through such registration that this business becomes her business, that it becomes part of the database of food premises that the food safety team she works with must inspect with more or less regularity. As she prepares her paperwork, three chefs move around the kitchen, seemingly not paying us much attention after an initial glance of curiosity. They tend to steaming vessels of food on a stove top, transport goods across the room on a stainless steel trolley, wash their hands at the stainless steel sink. There are signs of other activity: stainless steel bowls of foodstuffs laid out on a counter, a stack of boxes of poultry meat that has been delivered on another, a thick round wooden chopping board with a meat cleaver laid across it, sizzling and steaming noises, spicy aromas, the rattle of pans. The chefs must ensure that food will reach the lunch-time table to the satisfaction of diners; food that is hopefully tasty, value for money, timely, and safe.

Alison heads straight to a storage room off the kitchen. She enters the walk-in fridge and we peer in from the doorway. Alison works her way around it with her torch, inspecting the shelves stacked with boxes and plastic containers. On one shelf, she draws attention to an

uncovered plastic container of meat cuts, sitting next to an open crate of mushrooms. On the ground below, she spotlights an uncovered colander of meat defrosting, dripping blood into a tray beneath. She steps from the cool room, writes some notes on her checklist, then enters the walk-in freezer. She consults her temperature probe, tests the cleanliness of surfaces with the swipe of a fingertip, squats on the floor to peer under the shelves. “It’s quite clean,” she comments.

Stepping back out, she moves around the storage room, inspecting surfaces, floors, products. Behind a stack of boxes in the corner behind the freezer, she takes to the floor, reaches into a barely accessible corner, and rises with a mouse dropping in the palm of her hand. She squeezes it between her fingernails. It’s hard, so probably old, she concludes. She moves into the kitchen, where she finds another couple of mouse droppings in a corner on the floor, in an area where some ceiling tiles have been removed. “When we can see mouse droppings,” she explains, “we then look for them on food contact surfaces, near food, and for nibbled food. This is then evidence of imminent risk.” In face of such evidence, she has the power to close premises. She spotlights the opening in the ceiling with her torch. “The mice get in places like that,” she says, and starts to check under the counters with her torch (Figure 1), and around the shelves in the cooking area. “This would be a nice and warm spot for mice.” But after several minutes, the trail seems to be cold, and Alison returns her attention to other details of the kitchen. She passes her finger over and under surfaces, and torches along edges, into corners, across surfaces and underneath equipment. “If there is a cleaning schedule, it’s not kept up,” she remarks.



Figure 1. If I were a mouse...

At this point the manager arrives, smartly dressed in black, mobile phone in hand. Alison asks to see the documentation on their food safety management system and their pest control records. While the manager goes to track down some records, Alison continues checking the remaining kitchen area, eventually concluding by remarking, “The mouse droppings don’t end up in here. It’s good.” The manager returns with the pest control reports from his contractor. The last report was three months ago. “I’ve seen mouse droppings,” Alison tells the manager. “Call them to make sure they’re not fresh. Have you still got a contract? What about your *Safer Food, Better Business* pack then? Are you not recording any temperatures, any records?” He goes over to consult one of the chefs. “He’s not managing anything, or documenting, so automatically his score will be low,” comments Alison. On our way here today, Alison had explained: “Because [the restaurant] is new I dropped off a food safety pack, so they should have some HACCP procedures, unless,” she added wryly, “they threw it in the bin.” HACCP — Hazards Analysis and Critical Control Points — is one of the sections on her inspection checklist. The HACCP process is about identifying specific sites

of hazard in any given production process, and then putting in place solutions for their control, which are then monitored. The manager now returns with several sheets of tables of fridge and freezer temperatures, numbers that vary slightly and appear to be real. This is all the documentation he has. “This quite clearly is not sufficient as food safety management,” she says sternly to him. She’ll send him a Chinese version of the *Safer Food, Better Business* pack.

After answering her questions about food preparation procedures, Alison and the manager tour the kitchen, she pointing out various food hygiene offences along the way. She points to a wooden chopping board, explaining to the manager that wood is inappropriate as it swells with moisture, and bacteria can breed within. It can’t be cleaned effectively, and that’s why stainless steel is recommended in kitchens. As they move away, one of the increasingly anxious looking chefs comes over and starts to wipe the wooden surface with a rag. He understood the gesture of recrimination, but clearly not the crime.

So in the form of Alison herself, food safety regulation enters the kitchen. She is inspection embodied: official pass, white coat, full clipboard, stern manner. What does she do first when she arrives? She examines and explores the kitchen as a physical entity — its structure, its surfaces, its spaces — to ascertain its state of hygiene. This is very much the traditional image and role of the environmental health officer in food preparation premises (Harrison et al., 1997; Hutter, 1988). However, her attentiveness to its paperwork is suggestive of a more recently emerging form of inspection: that of the state of its documentation as an indicator of the safety of the food being handled, produced and served here. Despite her identification of various food handling and documentary offences (e.g. the wooden chopping board, mouse droppings on the floor, and lack of comprehensive records), it is already clear that Alison is not after perfection. The chopping board has not been confiscated; the mouse droppings were

only of interest if they were fresh; another information pack about food safety management systems is on its way. She modulates her manner with the manager: while she's being stern with him, she's also being supportive, advising him to contact the pest control company, explaining why wooden surfaces are less hygienic than stainless steel. Rather than judging infractions through a strict code of what is permitted and what is forbidden (Lentzos and Rose, 2009), she's enabling the business to operate within "a bandwidth of the acceptable" (Foucault, 2007, p. 6). This is not discipline, which "regulates everything... allows nothing to escape" (Foucault, 2007, p. 45), but security, which tolerates a certain degree of laissez-faire. Alison is concerned with improving performance, rather than achieving perfection.

So what do we find so far on this visit, how are food futures being worked on, secured, made safe? Through Alison's inspection, the food safety regulations she embodies, and the food handling practices they demand (European Commission, 2002, 2004a, b, 2005; FSA, 2010), the future is being folded into the present in a number of modes, using a number of techniques. The mode of securing that is most prominent at this stage of the visit is that of prevention. What Alison is checking for in this mode is the state of the kitchen here and now, hence her concern regarding the presence, location and freshness of mouse droppings. She is tasked by the local authority with establishing whether this place as a site of food preparation represents an "imminent risk" to public health. If it does, an immediate phone call to her manager would follow, and likely immediate closure. This is the point of the unannounced arrival and Alison's (legally backed) insistence on instant access to the food storage, preparation and cooking area. She needs to get a warts and all snapshot of the hygiene standards (and the documentary standards) of the kitchen when the owners and workers think no one is looking.

The concern for wooden chopping boards, mouse droppings, temperature records, HACCP systems, cleaning rotas, and so on: all of this is about prevention. It is about doing, or not doing, certain things because they directly and predictably (in a probabilistic mode) shape what happens next. More specifically, doing or not doing certain things directly and predictably generates a more hygienic environment in which food safety is maximised. The possibilities of microbial growth in stored foods, of cross contamination between raw and cooked foodstuffs, of contamination of food by unclean hands, are minimised. Similarly, the food safety team's annual risk assessment of local food businesses is yet another form of distributing attention which identifies the most probable threats to public health to foreclose unsafe futures. The performance history of this restaurant will be judged alongside those of other businesses within their jurisdiction, taking into account the team's past experiences of different types of food preparation and food cultures, to calculate the most likely future threats to food safety, and thus the priorities for inspection.

What binds these preventative practices together is that they proceed on the basis that the past is a good and reliable guide to the future, that the future is "a perpetuation of the present" (Anderson, 2010a, p. 780). If we do this — store the food at a certain temperature, use stainless steel surfaces, or more regularly inspect those businesses where food is prepared in a certain way — then experience and evidence shows that this outcome — food poisoning — is significantly less likely. The future is calculable. An all too likely future can be tamed, prevented. Preventing is a mode of securing food futures that is concerned with *ensuring*. It trades in probabilistic certainties and regularities. Historical patterns are used to calculate probabilities of future events and thus guide rational action in the present (Keck, 2008; Lakoff, 2008). Keeping the kitchen clean and pest-free, storing food correctly, good personal hygiene, approved food preparation practices: these techniques regulate the circulation of bad food, unsafe food, from the kitchen and into the dining room upstairs.

4. Precaution: assuring food futures

Alison now escorts the manager into the walk-in fridge. Her torch sweeps across the shelves of boxes, whole ducks hanging, bulging plastic bags. She uses the torch to draw attention to particular containers of meat. She looks in some boxes, remarking, “These are OK, you can tell where they’re from,” and then points her torch at the plastic bags, “but everything in containers or bags with no labelling...” There’s some kind of meat in the bags, but it’s unidentified and unidentifiable. “There’s no dates and labels. If someone is off sick, someone else doesn’t know what it is,” Alison remonstrates the manager. “Where is your meat from?” He lists his suppliers, some familiar names from the wholesale market. Alison wants to see invoices, paperwork, evidence that this meat has been provided by registered, authorised operators within the food chain. Some of the meat offences we witnessed earlier have been removed from the fridge during our inspection, but the defrosting meat in the colander is still there. “What’s that under there, do you know, defrosting?” She points accusingly at it with her torch. “What’s the name of the supplier?” “Jason,” he replies. “The company,” she inquires. “Jason is the name on the invoice,” he insists. He pulls out his iPhone, and shows her the listing for “Pork Jason”. She notes down the telephone number.

Alison pulls out a white plastic bucket beside the colander, and she shines her torch onto a side of pork. This meat bears a red stamp: Espana 10.00655/B CE (Figure 2). It’s appropriately labelled. The stamp identifies the meat as of knowable origins (a pork producer in Spain) and, perhaps more importantly, it speaks of a moment of certified health (FSA, 2009, 2010). Environmental health officers such as Alison are not the only army of inspectors doing the work of securing meat. EU legislation requires the inspection of meat at other key moments of its journey from farm to fork. Meat is stamped in this way at the slaughterhouse. Alison and her colleagues have a close working relationship with the

veterinarians who, on behalf of the FSA, inspect animals and carcasses at registered UK slaughterhouses for signs of ill-health. These vets check that the animals arriving for slaughter are accompanied by appropriate food chain information (about animal origins, animal condition, and tests for pathogens), and ensure that only appropriate parts of those animals enter the food chain for human consumption. Meat imported into the UK from countries outside the EU is examined by vets who staff the border inspection posts at ports and airports. This health inspection involves both a physical examination of the food product and a careful documentary check: does the meat look OK, and has it arrived accompanied with an authorised health certificate and other required paperwork? Once again, this is security, rather than discipline. This border inspection does not aim to “prophylactically secure the state by throwing up a barrier around it”; instead it “regulate[s] the intercourse transacted by, between and through populations” (Dillon and Lobo-Guerrero, 2008, p. 269).



Figure 2: Health mark on a side of pork

So Alison, demanding information from the restaurant manager and inspecting the contents of the fridge with her torch, is the end of a chain of inspection that accompanies and regulates the circulation of meat. Meat and animals are inspected on farms, at markets, in slaughterhouses, in processing plants, in cold storage facilities, at airports, at retail; key passage points in the flow and exchange of meat as it moves from farm to fork (FSA, 2010; FSA and DEFRA, 2010). “[Security techniques] do not operate in the closed space of institutions,” Lentzos and Rose (2009, p. 234) remind us, “but across planes of movement of persons, commodities, knowledge, communications within and between nations.” Discipline is centripetal, isolating and concentrating its attention, whereas security is centrifugal, tending to distribute its attention into ever-wider circuits (Foucault, 2007). Hence, strategies of security must give a high priority to mechanisms of coordination, the linking together of diverse agencies, linking the work of Alison with the work of border inspectors, veterinarians, laboratory scientists, policy makers, and epidemiologists.

Entangled with the preventative techniques witnessed in Alison’s inspection of the restaurant, we distinguish a second thread of securing food futures; that of precaution. This applies particularly to the meat in the restaurant. Some food safety issues raised by eating meat are dealt with — quite effectively — in a preventative mode of securing. Some, but not all. In the aftermath of the outbreak of BSE in the late 1980s, an additional mode of securing the safety of certain kinds of meat was formalised in EU legislation (European Commission, 2001, 2004c), which Alison is partially responsible for enforcing. In this precautionary mode, the past is *not* taken to be such a good guide to the future. Uncertainties of various sorts persist, for example those about transmissible spongiform encephalopathies, or TSEs. These uncertainties are managed by a precautionary approach that requires the removal of “specified risk material” from cattle and sheep, and the testing of animals over a certain age. Alison’s concern with the provenance of the meat passing through the restaurant (as

evidenced by its stamps, invoices, and other paperwork) is one amongst many checks throughout the food chain designed to ensure that material designated not fit for human consumption on precautionary grounds does not reach consumers.

So there's a possible future being avoided, a future of "determinate threats" that are not entirely known or calculable (Anderson, 2010a). This, then, is not ensuring but *assuring* food futures; that is, it offers a more tentative promise instead of a firm guarantee. Precautionary practices give confidence — to regulators, to inspectors, to retailers, to consumers — but not certainty. Rather than dealing in probabilities, precaution deals in doubts about the very possibility of prediction (Keck, 2008). The past is not taken as a strict guide to what is to be done to ensure safe food in the future. Instead, it is more modestly taken as suggestive of ways in which we might avoid confronting undesirable and not entirely knowable food futures.

5. Preparedness: insuring food futures

Alison completes her tour of the kitchen, lifting a dirty coat with her torch to inspect it, peering down the back of kitchen equipment, still looking for signs of mice and other potential hygiene offences. She stops to inspect the official markings on some boxes of poultry that have recently been delivered and sit stacked on the stainless steel counter. For our benefit, she points to a red stamp on a box, Ireland 806 EC, an EU authorised identification code for the producer. This particular code designates a certified poultry slaughterhouse in Ireland (Figure 3). There are other marks on this box: some company branding; a mark indicating that the producer is certified by the UK Halal Monitoring Committee; and a product label bearing a barcode and description of the box contents ("8 x 2000g loose"), and marked for export. These various markings stand for guarantees of

certain qualities of this meat, and speak of the journey of this commodity through a factory, between businesses, and across borders.



Figure 3: Poultry deliveries stacked on the counter

Finishing her inspection of the kitchen, Alison says to us, “It’s not really bad, but it’s not good.” Alison and the manager now discuss training certificates, meat invoices and other paperwork she’d like to see. Back upstairs, she settles down at a table to compose her report. There are several customers in the restaurant now, ordering and eating food. They look over at us inquiringly. The manager pulls up a chair. He offers Alison some of the documentation that she’s requested, invoices and receipts for goods delivered and services rendered. With the manager, Alison discusses the company’s details, the number of staff, inspects his meat invoices, and says she’ll expect to see later the paperwork for the waste contractor and the staff training certificates.

This paperwork once again speaks of the restaurant as part of a broader economy of exchange and transaction. This broader economy includes the local council itself, through the rates that businesses pay, and through its economic strategy to support the performance of the local economy. Alison has already told us that the food safety team is not in the business of

closing down businesses. They temper enforcement with enablement, whether by supplying guidelines and advice to those starting out, or producing action lists from their inspections rather than forcing businesses into inactivity. At the same time, these inspections produce food hygiene ratings, which are made publicly accessible on a website for those diners who care to check out a business before they take their custom there. Referring to some papers in her yellow file, looking over her inspection notes, Alison completes her report on this inspection, culminating in an action list for the manager. The manager sits at the end of the table looking ashamed, quietly awaiting judgement. She talks him through a list of ten priority actions to complete before her follow up inspection. “I need this information,” she insists, “as it affects your rating. I’ll give you a couple of weeks and then come back.” Once again, Alison’s concern is with improving performance rather than achieving perfection; her list of required actions is less extensive than the catalogue of food safety offences witnessed in this kitchen. She’s nudging the business into a “bandwidth of the acceptable” (Foucault, 2007, p. 6). Despite its many shortcomings, she is not closing it down. Such modulation allows for the restaurant as poly-functional (Foucault, 2007), as having a role in multiple circulations. As well as being an unwanted passage through which disease may circulate, it is first and foremost concerned with the circulation of food to customers, as well as being implicated within a local economy of trade and taxes.

Meat, too, is multivalent, as suggested by the many markings on the delivery boxes on the counter. Alison, though, is more attentive to some marks than others. The marks on the meat in the kitchen (such as the health stamps), the marks that travel with the meat (such as the identification stamps on the boxes), and the marks that are about the circulation of meat (the invoices, receipts, phone numbers) are part of a broader formalisation of food safety, in which food commodities and those that produce, pass on, and receive them must be certified and recorded (European Commission, 2002, 2004a, b). Such accompanying signification is

now required to make meat legal, and Alison is obliged to verify the presence of the relevant evidentiary materials and act on their absence as appropriate (FSA, 2009, 2010). This system of traceability has been rolled out in the EU over the past couple of decades, amidst ever-growing worries about emerging infectious diseases and how food may be implicated in their gestation and spread. Meat is being made “informed” (Barry, 2005; Bensaude-Vincent and Stengers, 1996) in new ways. As it becomes more articulate, it gathers traces of its journey and transformation from farm to fork. Although increasingly popularised as a technology of assurance in the hands of some consumers and indeed retailers (e.g. being certified provides confidence to others in the safety of the food being transacted), in a strict legal sense, this system of traceability is designed and made obligatory as a tool of recall and reconstruction (Popper, 2007; Torny, 1998). It is a means to both establish the origin of an outbreak of disease and recall any affected goods: “If a food safety emergency occurs, the food can be tracked backwards or forwards through the food chain. This information can be used to withdraw or recall food more quickly from the market and to target these actions to specific products” (FSA, 2010, Ch. 13, p. 2). In this role, traceability is not really designed to prevent things going wrong, nor to reassure us that things aren’t likely to go wrong, but is infrastructure working to aid rapid and robust response when something *does* go wrong, an event of some sort, whether a case or two of food poisoning or an outbreak of a more deadly foodborne disease.

The traceability which the increasingly informed materialities of food afford, and which Alison was doing her best to ensure at the restaurant, is a technique through which a future for which we must be prepared gets folded into present practices. While Alison’s inspection performs food futures that are knowable and preventable, as well as those futures that are less sure but hopefully still circumventable, it also allows for futures that are unheralded. Alongside the ensuring of good food hygiene and the assuring of precautionary techniques, is

the *insuring* in case of the unexpected. In this context, insuring is about providing a back-up or another course of action in case things go wrong, and in doing so it works on precarious futures. Insuring is performed through techniques of preparedness, those that make readiness without necessarily knowing what one is ready for. In this genre of concern, the past is an even less reliable guide to the future than a precautionary mode of securing would allow; the past does not necessarily contain all the elements of what is to come (Lakoff, 2008). The emphasis thus shifts to preparing for the inevitable but unknowable, increasing resilience in the face of unknown assaults to system or self, assaults that may be catastrophic (Anderson, 2010a; Keck, 2008; Lakoff, 2008) or additionally, we would argue, more mundane. Technologies of preparedness, whilst enabling rapid response to an epidemic or series of fatalities, can also guide response to a bout of ill-health amongst one or more of the customers dining upstairs.

6. Being with meat, or what to take away from this restaurant

In *The Five Senses*, Serres (2008, pp. 304-5) figures a “visit” as something that involves going and seeing, something that involves the whole body, something that always explores a knot. We have found neither a better figuration of Alison’s unannounced inspection of the kitchen nor a better evocation of our experience of accompanying her that day. Hopefully the detail of the preceding sections gives a flavour of why we have been lured back again and again to this event long after we stepped off the premises with Alison, a flavour of the “complex present” (Mol, 2002, p. 43) we encountered and the complex futurings that this involved. What might we take away, as it were, from our visit to this restaurant thus characterised, as we think again about the object of regulation?

Firstly, the milieu in which the material object of regulation is secured is a “mingled place”, to quote Serres (2008, p. 307) again, “a moiré and precisely historiated landscape”. For the circulation that is at once the *raison d’être* and the *sine qua non* of the kitchen to go on, it must be actively related to not only all sorts of elsewheres (e.g. farms, processing plants, airports) but all sorts of elsewhens as well (e.g. the BSE review, the delivery of the next meal, future outbreaks). To consider this coalescence of *theres* and *thens* as *incidental* is to risk losing what is important about any complex or knot in the doing of analysis. We habitually untie, disentangle, and even cut the threads of a situation in the search for separable elements for which we have a powerful explanation (Latour, 1988), rather than paying attention to the implications of implication and the “pluridimensional variety” that it generates (Serres, 2008, pp. 306 & 308).

Thus, even in the best work around biopolitics, biosecurity, and the governance of life there has been a tendency to over-emphasise the extent to which those techniques apply to particular times, domains, places, or objects. For example, we read stories of how different technologies come to the fore at different moments (e.g. currently those of anticipation (Massumi, 2009)), or how different groups employ different technologies (e.g. vets versus clinicians (Keck, 2008)), or how different technologies dominate in different places (e.g. the UK, Germany and France (Lentzos and Rose, 2009)), or how different techniques map onto different referent objects (e.g. population or infrastructure (Lakoff, 2008)). This is not to suggest that these accounts lack purchase (indeed many of them have been instrumental in shaping our thinking around such matters), but simply that we have identified something rather different here. And that is that different technologies, different ways of securing the present through the future — prevention as ensuring, precaution as assuring, and preparedness as insuring — are all in operation simultaneously, in the milieu that is the kitchen. Indeed, Alison expected this to be demonstrably so, her job being to generate

evidence that this was (or wasn't) the case. This is very definitely not a case of replacement, of the new superseding the old, but instead a matter of addition; this as well as that, as well as the other. Prevention, precaution, and preparedness all at once, coexisting, and all together making matters safe through premises, procedures, and paperwork. Furthermore, there were other theres and thens mingling in the kitchen. Food is expected to be all kinds of other things apart from safe, and these goods also in-volve the future in various ways, from predicting how many orders are going to come down from the dining room, through to working out how to survive as a business. These have to be managed alongside the requirements of food safety regulation, and so securing is only ever partial, a fraction of what is going on in this mingled place.

The second thing that we should take away from the restaurant is that the material object of regulation itself — the meat in our case — is also mingled. Firstly, mingled in and into the rest of the world by virtue of being done in practice. Even here right at the end of the so-called food chain, on the plate ready to be taken upstairs to the waiting customers, the fleshy foodstuff was never finished. Meat as “edible matter” (Bennett, 2010) is not something that one can ever say is completely ‘made’ or made ‘complete’ if that means disentangled, or possible to disentangle, from its conditions of possibility (from abattoirs to taste receptors). Instead it is better considered as continually ‘enacted’ (Mol, 2002) or literally ‘realised’ (Law, 2004) in practice. As safe for example.

And then mingled object, secondly, because more than being done (and never finished) in practice, the meat we encountered was done in *practices* (plural). Different food safety practices, but also varied and various culinary practices, business practices and so on. The meat was being done more or less safely AND more or less tastily AND more or less profitably (and so on). Inasmuch as it held those goods-in-practice together, this is meat

“multiple” (Mol, 2002), an entity with a more-than-one-but-less-than-many quality, something manifold (perhaps better many-folded) without being fragmented. Returning to our interest in the shape of the object of regulation, we might draw on the work of Jean-Luc Nancy (2008) to think such a thing as a “tension”, a tension that is generated by the object of regulation being both ex-tended (stretched, drawn out) and in-tensive (concentrated, compressed) at the same time. Like Mol’s formulation, then, Nancy hints at how to think through the fact that things so often hold (in tension) difference in sameness. Both help us get at the being ‘with’ (Bingham, 2006; Lavau, in prep.; Mol, 2002; Nancy, 2000) of meat that we encountered in the kitchen, both with *other things* in (and through) practice, and with *other versions of itself* in and through practices (Mol, in prep.). This is what it means for meat to be a matter of compromise and for meat to have a complex present (and presence) in the kitchen.

One final thing to take away from the restaurant is that the regulation of the material object requires the attention of a mingled body. The different versions of meat do not simply hang together just like that. If and when they do so, it is due to some or other kind of coordinating work, as Mol (2002, 2008) reminds us. Perhaps what is distinctive about what we found in the kitchen compared to what she found in the hospital was that meat was expected to be all things, all at the same time, and all in the same place. Hence, Alison’s articulation work in this kitchen included: sorting between versions (asking for explanations when the reasons for doing something a certain way in the kitchen were not clear); testing their compatibility (establishing whether the level of training of the staff were consistent with the minimum legal requirements); identifying their contradictions (pointing out that using cheap suppliers may save them money but may be exposing them to risk on the food safety side); ranking their priority (being very clear that if she found mouse droppings on food preparation or storage surfaces they would be closed, lunchtime or not); working with their resonances (explaining

that keeping good records will help them be more economically efficient and meet their food safety responsibilities). She sees her job not as looking for reasons to close down businesses, but rather very much as the encouraging and facilitating of food safety improvement. This concern with improvement rather than perfection is analogous to what Mol and others would recognise as ‘good’ care (Mol, 2008; Mol et al., 2010).

In order to do that well Alison has had to learn at least three things. First — through training and experience — she must both appreciate where the things with which she is concerned are coming from (meat as extended) *and* articulate between the different versions of the things with which she is concerned (meat as in-tension). In other words, she recognises that food businesses such as this restaurant are not and cannot be all about food safety. Certainly if there was imminent risk then she would not have hesitated to enforce the law promptly and strictly, but it was noticeable that regarding other more minor infractions she turned a blind eye, or at least only noted that they required addressing. She has some wiggle room herself and offers it to others as she sees appropriate (see Baldwin et al. (2010) on the importance of discretion to regulators, and Harrison et al. (1997) on the use of discretion by EHOs).

There is some ‘give’ here, then, and that is important. To be able to give that give and, just as importantly, have that give taken seriously by the food business operator, Alison has also had to learn two other things. Firstly, she has to get involved enough in the knot of the visit — the complex present of the mingled place of the kitchen and the mingled object of the meat — to both get a sense and give back a sense (to the business, to her superiors) of what is going on. And she does get involved as we have seen; in and with every sense from scanning paperwork, to squeezing mouse droppings, to scrabbling about on her hands and knees with a torch. And secondly, she has to had to learn to be something of a chameleon (Serres, 2008, p. 307), and is now enormously adept at deploying a range of modes and manners to achieve her

aim of compliance and improvement both within and between visits (see also Harrison et al., 1997; Hutter, 1988). Hers is a mingled body then in terms of appreciating the mingling of the object of regulation, of throwing herself into the mingled place of the kitchen, and of reflecting those knots and complexities in her interventions. Following Nancy (2008) again, we might say that Alison is *tending the tensions* of the food in the restaurant.

And that might be enough in terms of characterising the object of regulation, if it wasn't for the future; not the future (made) present through the technologies-practices of prevention, precaution, and preparedness, but another future, the future of and as surprise, the future that unhinges the present, as Nancy so helpfully characterises it (Martinon, 2007; Nancy, 2000). For him surprise is the tension (that word again) that we cannot ignore. More specifically, it is the apprehension that this tension may be broken. Surprise in this sense is hardly unfamiliar in the world of food safety. From BSE to E.coli, the apprehension (or lack thereof) of what comes to make a difference (sometimes a life changing difference) is a haunting presence in policy and practice. Collectively, we have learned, often the hard way, that however well we think we might be managing (e.g. food safety), things (e.g. prions, viruses, bacteria, and other forms of life) have a tendency to go their own sweet way, to exceed our understandings and anticipations (Law and Mol, 2010). Why, after all, would one regulate an object if there was not a risk that it could behave in a way that was other than what it was valued for? Most recently we see this played out in concerns that the new (and future) regime of risk-based regulation (Black, 2007; Rothstein et al., 2006) is limited by its lack of ability (even with its emphasis on preparedness) to deal adequately with surprise. Might we say that when she was "struggling to see what it actually is", Alison was showing herself capable of being surprised in, over and above the other techniques of ensuring, assuring, and insuring food safety that she brought to bear in the kitchen? Perhaps that would be to claim too much. But perhaps not in the sense that what characterised all the good

regulation that we have followed during the project so far was that there was more involved than rule following.

Conclusion

Having taken away from our restaurant visit an appreciation of mingled places, mingled objects, mingled bodies, we're now in a position to summarise the contributions we have made to the two conversations flagged in the introduction. Regarding the first — biopolitics meets object-oriented approaches — the mingled material object of regulation implies a need to take seriously a notion of life (including the de-composing life of meat) that is neither fully formed and controlled nor fully formative and vital, but rather both/and/more (the more being the supplement of surprise). By paying attention to Alison's paying attention, both the truth of and necessity of adding to Foucault's elaborations of security have been demonstrated. Yes, security, "unlike the law that works in the imaginary and discipline that works in a sphere complementary to reality, tries to work within reality" (Foucault, 2007, p.47), but that 'reality' has a rather more complex present and presence than Foucault was able to acknowledge, and a more complex present and presence than much (though by no means all) of the biopolitics literature that has been generated since.

As regards the second conversation in which we hoped to intervene — geography meets the future — the mingled place (with its elsewheres and elsewhens) implies the need to take seriously the notion that the future is implicated in the present milieu in many modalities at the same time, not all of which we are in control. To repeat, the complex present that we encountered involved complex futurings. By paying attention to Alison's paying attention, we learned what it means in practice that we are exposed to an undecided and undecidable future (Hagglund, 2008). What it means in practice is that we try, but will always already to

some extent fail, to limit the matter of (unconditional) visitation to a case of (conditional) invitation (ibid). Alison does the best she can — by folding the future into the present, by letting herself be surprised — to ensure, assure, and insure that the food ordered by the customer upstairs is safe, but even together those securings can never be a guarantee. Quite literally, such is life.

And finally, what does our notion of the object of regulation offer more generally to those concerned with matters of biosecurity? Firstly, we contend that these are matters of managing abundance, and that this needs to be more fully appreciated. We witnessed with Alison and others what we consider to be some very good regulation, moments in which these highly skilled practitioners recognised and worked on the tensions of food safety. Their articulation work ensured that the purposive, referent and material objects of regulation more or less held together. Secondly, there are limits to this tending, however skilled. The mingled places (as milieu), objects (as tensions), and bodies (as chameleon) involved can be stretched for sure, and have been. But there are tipping points. As the philosopher Catherine Malabou (2008) counsels, there are very many risks in capitalism's assumption of infinite flexibility, complete plasticity. Without tensions being tended, we may encounter what she reminds us is another version of plasticity: things not kept safe may well explode.

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